ZHURAVLEV, S.F., insh.; VASILENKIY, Ye.G., insh.

Combatting inmotion during the underground mining of coal.
Bezop.truda v from. 9 no.4:29-32 Ap '65.   (MIRA 18:5)

1. Pricneprovskiy Sovet narodnogo khozyaystva.

VASEV, Atanas

Possibilities of controlling apple-fruit worms by means
of the parasitic fungus Beauveria bassiana (Bals.) Vuill.
Selskostop nauka 1 no.10:1105-1108 '62.

1. Raionen nauchnoizsledovatelski institut po ovoshtarstvo
v Kyustendil.

VASEV, S.

There was a forest. p. 103.
GORSKO STOPANSTVO, Vol. 13, no. 3, Mar. 1957, Sofia, Bulgaria.)
SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

VASEV, S.

Vasev, S. With soldiers of the Red Army. n. 10. FIGMENT VOL. Sofiya.
Vol. 4, no. 5, May 1955.

SO: Monthly List of the East European Accession (EEAL LC. Vol. 4,
no. 10, Oct. 1955. Uncl.

NAZAROV, I.S. [deceased]; KOROLKIN, Ye.I.; REDJOKRITSKIY, Ye.L.;
    GLADKIKH, B.Ya.; STARIKOV, V.S.; VASLY, S.A.

Rapid heating of steel in compartment furnaces. Izv.vys.ucheb.
zav.; chern.met.   5 no.6:155-166 '62.
                                                    (MIRA 15:7)

1. Sibirskiy metallurgicheskiy institut.
                (Furnaces, Heating)

VASEV, V.C.; TIVONAROV, V.G.

The ρ-meson mass difference. IAd. fiz. 1 no.3:524-525 Mr '65.

(MIRA 18:3)

1. Institut matematiki s Vychislitel'nym tsentrom Sibirskogo otdeleniya AN SSSR.

KOPYLOVA, Z.A.; KAMOLIKOVA, T.L.; Prinimali uchastiye: ALABYSHEVA, S.I.;
VASEVA, R.G.

Level of ascorbic acid in the blood in health subjects and in
acute infections in Archangel. Vop.pit 21 no.4:66-71 Jl-Ag '62.
MIRA 15:12)

1. Iz kafedry biokhimii (zav. - dotsent M.D.Kiverin) i
infektsionnoy kliniki Arkhangel'skogo meditsinskogo instituta.
(ASCORBIC ACID) (ARCHANGEL—COMMUNICABLE DISEASES)

KOPYLOVA, Z.A.; Prinimali uchastiye: Alabyshova, S.I.; BIRYUKOVA, L.V.;
    VASEVA, R.G.; TENIGINA, N.G.

    Effect of vitamin C supplement on the level of ascorbic acid
    in the milk and blood of puerperants in Archangel. Vop. pit.
    21 no.6:56-60 N-D '62.   (MIRA 17:5)

    1. Iz kafedry biokhimii (zav. - dotsent M.D. Kiverin) Arkhangel'skogo
    meditsinskogo instituta.

FREYDENZON, Ye.Z.; FREYDENZON, Yu.Ye.; KOTSAR', S.L.; ZATULOVSKAY , Yu...;
    Prinimali uchastiye: KAS'YANOVA, K.S.; MIDRIK, L.Ya.; TIMEFEYEVA,
    T.D.; KOTEL'NIKOVA, Z.G.; VOTLOSHNIKOVA, A.I.; VASEVA, R.S.;
    GNATYUK, P.I.; MYKOL'NIKOV, A.A.; BURKSER, A.Ye.; FONER, L.M.;
    OGORODNIKOV, G.K.

Developing an efficient shape for slab ingots. Stal' 25 no.6:
539-543 Je '65.   (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Ye. Freydenzon,
Yu. Freydenzon, Kotsar', Zatulovskaya).

SOV/112-57-6-12095

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 6, p 54 (USSR)

AUTHOR: Vasevich, A. Z.

TITLE: Erection of Solid Hydraulic Structures From Prestressed Concrete
(Vozvedeniye massivnykh gidrotekhnicheskikh sooruzheniy s iskusstvennym
obzhatiyem betona)

PERIODICAL: Tr. 2-go nauch.-tekhn. soveshchaniya po proyektir. i str-vu
gidroelektrostantsiy. M.-L., 1956, pp 253-264

ABSTRACT: Prestressing concrete in the erection of hydraulic structures permits
meeting two contradictory requirements: limiting tensile stresses in the
concrete to the point of their complete elimination, and completely utilizing
the mechanical properties of reinforcement steel of any high quality. The
compression is created either by stressing the reinforcement packages under
tension, or as a result of an interaction of the prestressed parts and adjacent
structural members or the rock bed. Unlike the well-known methods of
prestressing by mechanical means, certain peculiarities of solid hydraulic
structures are used: large cross-sectional areas, heavy weight, and in some

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SOV/112-57-6-12095

Erection of Solid Hydraulic Structures From Prestressed Concrete

cases favorably-oriented forces of water or soil pressure. A few methods have been developed for artificially prestressing concrete and stressing reinforcements without mechanical means. A "hydraulic" method includes sealed cavities in the body of the structure oriented normally to a tension reinforcement, which is passed loose through the concrete of the member being prestressed; the reinforcement ends are fixed; one in the tension block over the cavity, and the other in the base of the structure. Tension in the reinforcement and prestressing in the concrete are created by pumping a liquid into the cavity under 10-20 atm. Reinforcement elongation is fixed by means of shims placed along the contours of the cavities. The cavities are filled with mortar, which can also serve as a liquid for creating the necessary initial pressure. A "gravitational" method uses for prestressing the weight of the structure or parts of it or other loads applied to the structure. To this end, a part of the structure — the tension block -- is separated by a temporary through slit which permits turning the block about a specified horizontal axis. The tension block is erected in a position deviating from its ultimate position, by

Card 2/3

SOV/112-57-6-12095

Erection of Solid Hydraulic Structures From Prestressed Concrete

providing temporary supports for the block; then the supports are gradually removed, and the block goes into its designed position, causing the necessary tensile strength in the reinforcement and prestressing the concrete. Then the temporary slit is filled with concrete and cement. Recently, a variety of the "gravitational" method has been developed that uses the elastic properties of compressed subsoil. To provide tension in the reinforcement and prestressing in the concrete, irregular subsiding of an asymmetrically-loaded foundation is used; the subsiding involves an angular shift of the foundation by virtue of which the necessity for temporary hinges and for striking work is avoided. The above methods, when actually used in the construction of a number of hydraulic structures, permitted saving up to 20% on concrete volume and cutting the cost of drainage pumping work. The above methods are also applicable to multiple-bay structures and to assembled prestressed structures.

M.G.S.

Card 3/3

VASEYEV, I.A.

Amalgamation of scooped concentrate. TSvet. met. 29 no.8:79
Ag '56.   (MLRA 9:10)

(Amalgamation)

AUTHOR: Vaseyev, I.A.   127-58-4-22/31

TITLE: Self-Closing Chute Gate (Samozapirayushchiysya lyukovyy zatvor)

PERIODICAL: Gornyy Zhurnal, 1958, Nr 4, p 67 (USSR)

ABSTRACT: Mining Engineer N.P. Chernyshev of the Nerchinskoye Rudouprav-
                 leniye (The Nerchinsk Mining Administration) proposed the use
                 of a self-closing chute gate instead of a segmented gate. This
                 gate is placed at the opening of the chute on an axle equipped
                 with a handle. The gate is kept closed by 2 hooks. When the
                 hooks are released, the gate opens under the pressure of the
                 coal in the chute and the coal car is quickly filled. There
                 is one figure.

ASSOCIATION: Klichkinskiy rudnik Chitinskogo sovnarkhoza(The Klichka Mine
                 of the Chita Sovnarkhoz)

Card 1/1   1. Coal - Handling   2. Coal chutes - Design

VASEYEV, I.A., gornyy tekhnik.

Wet boring in unfavorable temperatures. Gor.zhur. no.2:63 F '56.
(MLRA 9:5)

1. Nerchinskoye rudoupravleniye.
(Nerchinsk Range--Boring)

VASEYKO, I., general-mayor artillerii

Eliminate the commonplace, slackening and oversimplification. Voen.
vest 43 no.1:66-69 Ja '64.   (MIRA 17:1)

VASEYKO, I., general-mayor artillerii

An artilleryman needs strength and endurance. Voen. vest. 44
no.6:71-72 Je '64.   (MIRA 17:6)

TERI, Rudol'f; VASH, Gabor [Vas, R.]

Research work in the field of knit goods manufacture in the
Hungarian People's Republic. Izv.vys.ucheb.zav.;tekh.leg.prom.
no.2:143-145 '62.   (MIRA 15:5)

1. Vengerskiy nauchno-issledovatel'skiy institut tekstil'noy
promyshlennosti.
                (Hungary--Knit goods industry)

VASH, I. [Vas, I.]

New indices for the determination of the concentration level and the production technology in forge shops. Kuz.-shtam. proizv. 5 no.12:32-34 D '63.   (MIRA 17:1)

BONDARENKO, D.C., red.; BUGAYENKO, P.I. [Buhaienko, P.I.], red.; VASH, O.V.,
    red.; KLIMPOTYUK, M.V., red.; PASTUSHENKO, M.S., red.; POVKH, V.O.,
    vidp. red.; POLISHCHUK, V.P., red.; RUSIN, V.P., red.; FESEN'KO, V.V.,
    red.; LUCHKIV, M., tekhn. red.

[Soviet Transcarpathia; a handbook] Radians'ke Zakarpattia; dovidnyk.
Uzhhorod, Zakarpats'ke obl. vyd-vo, 1957. 239 p.   (MIRA 11:7)
                        (Transcarpathia)

SABO, I.; DEZHI, Z.; VASH, Y.; D'YERDYAI, F. (Tyrgu-Muresh, Rumyniya)

Effect of silicic acid on carbohydrate metabolism in animals.
Pat.fiziol. i eksp. terap. 5 no.3:76 My-Je '61.   (MIRA 14:6)

1. Iz nauchno-issledovatel'skoy bazy Akademii nauk Rumynskoy
narodnoy Respubliki i kafedry fiziologii Mediko-farmatsevtitheskogo
instituta.   (SILICIC ACID)   (BLOOD SUGAR)

SABO, I.; VASH, Ye. [Vas, I.]; GRIDNEVA, A.G.

Effect of some ferment poisons on the heart muscle at various temperatures. Biul. eksp. biol. i med. 52 no.11:72-76 N '61.

(MIRA 15:3)

1. Iz filiala Akademii nauk Rumynskoy Narodnoy Respubliki i iz kafedry normal'noy fiziologii Meditsinskogo instituta Tyrgu-Muresh, Rumyniya. Predstavlena deystvitel'nym chlenom AMN SSSR A.V. Lebedinskim.

(HEART—MUSCLE)
(POISONS—PHYSIOLOGICAL EFFECT)
(TEMPERATURE—PHYSIOLOGICAL EFFECT)

VASHADZE, E.S.

Establishing optimum concentrations of some solutions for foliar
feeding of grapevines. Soob. AN Gruz. SSR 20 no.1:35-40 Ja '58.

(MIRA 11:6)

1.Institut pochvovedeniya, agrokhimii i melioratsii AN GruzSSR,
Tbilisi. Predstavleno chlenom-korrespondentom Akademii Sh.F.
Chanishvili.

(Viticulture) (Fertilizers and manures)

VASHADZE, E. S., Cand Agr Sci -- (diss) Effectiveness of root and extra-root nutrition supplements for grapevines." Tbilisi, Georgian Agricultural Inst Press, 1960. 21 pp; (Ministry of Agriculture Georgian SSR, Academy of Agricultural Sciences Georgian SSR, Scientific Research Inst of Soil Science, Agrochemistry, and Land-reclamation); 150 copies; free; (KL, 17-60, 162)

COUNTRY   : USSR
CATEGORY   : GENERAL SPEC.ZOOLOGY.INSECTS
             Insect and Mite Pests.
ABS. JOUR. : Ref Zhur -Biologiya, No. 4, 1959, No. 16298

AUTHOR   : Vashadze, N.V.
INST   : AS Georgian SSR
TITLE   : The Most Important Pests of Fruit Orchards of
             Abkhazskaya, Armenian SSR.

ORIG. PUB. : Sukhumi, AN GruzSSR, 1958, 26 str., ill.,
             60 kop.

ABSTRACT   : No abstract.

CARD: 1/1

VASHADZE, V.N

NAZAREVSKIY, S.I.; MAKAROV, S.N.; PILIPENKO, F.S.; GERASIMOV, M.V.; IL'INSKAYA,
M.L.; VEKSLER, A.I.,[deceased]; VASIL'YEV, I.M.; IL'INA, N.V.; SOKOLOV,
S.Ya.; LOZINA-LOZINSKAYA, A.S.; SAAKOV, S.G.;ZALESSKIY, D.M.; AVRORIN,
N.A.; IVANOV, M.I.; PRIKLADOV, N.V.; SOBOLEVSKAYA, K.A.; SALAMATOV,
M.N.; MALINOVSKIY, P.I.; LUCHNIK, A.I.; KRAVCHENKO, O.A.; VEKHOV, N.K.;
GROZDOV, B.V.; MASHKIN, S.; BOSSE, G.G.; PALIN, P.S.,(g. Shuya, Ivanov-
skoy oblasti); MATUKHIN; ZATVARNITSKIY, G.F.; GRACHEV, N.G.; CHERKASOV,
M.I.; KIRKOPULO, Ye.N.; LEVITSKAYA,A.M.; GRISHKO, N.N.; LIKHVAR', D.F.
VIL'CHINSKIY, N.M.; LYPA, A.L.; OREKHOV, M.V.; SHCHERBINA, A.A.;
TSYGANKOVA, V.Z.; BARANOVSKIY, A.L.; GEORGIYEVSKIY, S.D.; STEPUNIN, G.A.
OZOLIN, E.P.; LUKAYTENE, M.K.; KOS, Yu.I.; VAIL'YEV, A.V.; RUKHADZE,
P.Ye.; VASHADZE, V.N.; SHANIDZE, V.M.; MANDZHAVIDZE, D.V.; KORKESHKO,
A.L.; KOLESNIKOV, A.I.,(g. Sochi); SERGEYEV, L.I.; VOLOSHIN, M.P.;
RYBIN, V.A.; IVANOVA, B.I.; RYABOVA, T.I.; GAREYEV, E.Z. ;RUSANOV, F.N.;
BOCHANTSEVA, Z.P.; BLINOVSKIY, K.V.; KLYSHEV, L.K.; MUSHEGYAN, A.M.;
LEONOV, L.M.

Talks given by participants in the meeting. Biul.Glav.bot.sada no.15:
85-182 '53.   (MLRA 9:1)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR (for Makarov,Pilipenko,
Gerasimov, Il'inskaya, Veksler); 2. Akademiya komunal'nogo khozyay-
stva imeni K.D. Pamfilova for Vasil'yev); 3. Vsesoyuznaya sel'skokho-
zyaystvennaya vystavka (for Il'ina); 4. Botanicheskiy sad Botaniche-
skogo instituta imeni V.L.Komarova Akademii nauk SSSR (for Sokolov,
Lozina-Lozinskaya, Saakov); 5. Botanicheskiy sad Leningradskogo
                                   (continued on next card)

NAZAREVSKIY, S.L.---(continued) Card 2.

gosudarstvennogo ordena Lenina universiteta (for Zalesskiy); 6. Pol-yarno-Al'piyskiy botanicheskiy sad Kol'skogo filiala imeni S.M. Kirova Akademii nauk SSSR (for Avrorin); 7. Botanicheskiy sak pri Tomskom gosudarstvennom universiteta (for Ivanov); 8. Botanicheskiy sad pri Tomskom gosudarstvennom universiteta imeni V.V. Kuybysheva (for Prikladov); 9. TSentral'nyy Sibirskiy botanicheskiy sad Zapadno-Sibirskogo filiala Akademii nauk SSSR (for Salamatov, Sobolevskaya); 10. Botanicheskiy sad Irkutsko gosudarstvennogo universiteta imeni A.A. Zhdanova (for Malinovskiy); 11. Altayskaya plodovo-yagodnaya opyt-naya stantsiya (for Luchnik); 12. Bashkirskiy botanicheskiy sad (for Kravchenko); 13. Lesostepnaya selektsionnaya opytnaya stantsiya deko-rativnykh kul'tur tresta Goszelenkhoz Ministerstva kommunal'nogo kho-zyaystva RSFSR (for Vekhov); 14. Bryanskiy lesokhozyaystvennyy insti-tut (for Grozdov); 15. Botanicheskiy sad pri Voronezhskom gosudar-stvennom universitete (for Mashkin); 16. Orekhovo-Zuyevskiy pedago-gicheskiy institut (for Bosse); 17. Botanicheskiy sad pri Rostovskom gosudarstvennom universitete imeni V.M. Molotova (for Matukhin); 18. Botanicheskiy sad Kuybyshevskogo gorodckogo otdela narodnogo obrazo-vaniya (for Zatvarnitskiy); 19. Zoobotanicheskiy sad pri Kazanskom universitete (for Grachev); 20. Gosudarstvennyy respublikanskiy proektnyy institut "Giprokommunstroy" (for Cherkasov); 21. Botani-cheskiy sad Odesskogo gosudarstvennogo universiteta imeni I.I. Mechni-kova (for Kirkopulo); 22. Botanicheskiy sad pri Dnepropetrovskom gosudarstvennom universitete (for Levitskaya); 23. Botanicheskiy sad

(continued on next card)

NAZAREVSKIY, S.L.---(continued) Card 3.

Akademii nauk USSR (for Grishko, Likhvar', Vil'chinskiy); 24.
Kiyevskiy sel'skokhozyaystvennyy institut (for Lypa); 25. Botani-
cheskiy sad Chernovitskogo gosudarstvennogo universiteta (for Orekhov);
26. Botanicheskiy sad pri L'vovskom gosudarstvennom universitete
imeni Iv. Franko (for Shcherbina); 27. Botanicheskiy sad Khar'kov-
skogo gosudarstvennogo universiteta imeni A.M. Gor'kogo (for TSygan-
kova); 28. Botanicheskiy sad Zhitomirskogo sel'skokhozyaystvennogo
instituta (for Baranovskiy); 29. Botanicheskiy sad Akademii nauk
Belorusskoy SSR (for Georgiyevskiy); 30. Institut biologii Akademii
nauk Belorusskoy SSR (for Stepunin); 31. Botanicheskiy sad Akademii
Litovskoy SSR (for Lukaytene); 32. Botanicheskiy sad Latviyskogo go-
sudarstvennogo universiteta (for Ozolin); 33. Kabardinskiy krayeved-
cheskiy botanicheskiy sad (for Kos); 34. Sukhumskiy botanicheskiy
sad Akademii nauk Gruzinskoy SSR (for Vasil'yev, Rukhadze); 35. Ba-
tumskiy botanicheskiy sad Akademii nauk Gruzinskoy SSR (for Shanidze);
36. Tbilisskiy botanicheskiy sad Akademii nauk Gruzinskoy SSR (for
Mandzhavidze); 37. Sochinskiy park Dendrariy (for Korkeshko); 38.
Gosudarstvennyy Nikitskiy botanicheskiy sad imeni V.M. Molotova (for
Sergeyev, Voloshin); 39. Krymskiy filial Akademii nauk SSSR (for
Rybin); 40. Botanicheskiy sad Moldavskogo filiala Akademii nauk SSSR
(for Ivanova); 41. Botanicheskiy sad Botanicheskogo instituta Aka-
demii nauk Tadzhikskoy SSR (for Ryabova); 42. Botanicheskiy sad Kir-
gizskogo filiala Akademii nauk SSSR (for Gareyev); 43. Botanicheskiy
<div align="right">(continued on next card)</div>

NAZAREVSKIY, S.L.---(continued) Card 4.

sad Akademii nauk Uzbekskoy SSR (for Rusanov, Bochantseva); 44.
Botanicheskiy sad Akademii nauk Turkmenskoy SSR (for Blinovskiy);
45. Respublikanskiy sad Akademii nauk Kazakhskoy SSR (for Klyshev,
Mushegyan).

(Botanical gardens)

VASHADZE, V.N.

Study of the linden mite (Eriophyes tiliae Nal.) Biul.Glav.bot.sada
no.16:97-98 '53.   (MLRA 7:4)

1. Botanicheskiy sad Akademii nauk Gruzinskoy SSR.
              (Linden--Diseases and pests) (Mites)

VASHADZE, V.N., kandidat sel'skokhozyaystvennykh nauk.

Pest of the holm oak. Priroda 45 no.2:94-95 F '56.   (MLRA 9:5)

1. Sukhumskiy botanicheskiy sad Akademii nauk Gruzinskoy SSR.
        (Black Sea region--Oak--Diseases and pests)

USSR/General and Specialized Zoology - Insects.   P.

Abs Jour   : Ref Zhur - Biol., No 8, 1958, 35326

Author   : Vashadze, V.N.
Inst   :
Title   : To the Problem of the Biological Study of the Linden Con-
               tarinia tiliarum Kieff and Methods of Its Control.

Orig Pub   : Tr. Sukhumsk. Botan. sada, 1956, vyp. 9, 489-494.

Abstract   : Damages of the linden flowers by the Contarinia tiliarum
               in Georgia during some years led to a decrease in the
               honey yield. The damages were noted. The imago, larvae
               and pupa were described. The pest had one generation.
               The larvae pupated in the upper soil layer under damaged
               trees. Digging of the soil under the damaged trees and
               a full turn over of the layer of the soil was recommended;
               it was also suggested that at a mass propagation in the
               spring prior to the emergence of the imago a 7% solution

Card 1/2

of HCCH dust ($10 \ g/m^2$) bo used twice under the crowns
and subsequently the surface fixed with a rake.

Card 2/2

VASHADZE, V.N.

Some ornamental plant species immune to the Japanese wax scale
(Ceroplastes japonicus gr.) [with summary in English]. Trudy Sukh.
bot. sada no.10:495-517 '57.   (MIRA 12:3)
        (Plants, Ornamental--Disease and pest resistance)
        (Scale insects) (Phytoncides)

VASHADZE, V.N.

Pests of evergreen decorative plants of the Black Sea region in western Georgia (Abkhazia) and their control. Trudy Sukh.bot. sada no.11:197-228 '58.   (MIRA 13:5)
      (Abkhazia--Evergreens--Diseases and pests)

VASHADZE, V.N.

Data on the biological control of the wax scale Ceroplastes
Japonicus/G. Trudy Sukh.bot.sada no.12:359-364 '59. (MIRA 14:7)
(Scale Insects) (Insects, Injurious and beneficial—Biological control)

VASHADZE, V.N.

Pests of the flowering plants of the Black Sea region of Georgia
(Abkhazia) and their control. Trudy Sukh. bot. sada. no.14:
67-74 '62.   (MIRA 16:11)

VASHAK, V. P.

VASHAK, V. P. "Fertilizing long-staple Flax outside the roots During the Growing
Season." Moscow Order of Lenin Agricultural Academy imeni K. A.
Timiryazev. Moscow 1956.
(For the Degree of Candidate in Agricultural Science)

So: Knizhnaya Letopis' No. 18, 1956

VACHAKIDZE, A. I.

VACHAKIDZE, A. I. -- "Methods of Lecturing on the Subject 'Foreign Mil-
itary Intervention in the Civil War' in the 11th Class of Interme-
diate School." Tbilisi State U imeni I. V. Stalin. Tbilisi, 1957.
(Dissertation for the Degree of Candidate in Pedagogical Sciences)

SO: Knizhnaya Letopis', No 1, 1957

AUTHOR: Vashakidze, A. S.

TITLE: Determining the Contact Area of Rolled Material and Rolls Upon
            Rolling in Nonrectangular Grooves (Opredeleniye kontaktnoy
            ploshchadi prokatyvayemogo materiala s valkami pri prokatke ne
            v pryamougol'nykh kalibrakh)

PERIODICAL: Soobshch. AN GruzSSR, 1957, Vol 19, Nr 5, pp 591-596; in
            Georgian

ABSTRACT: Mathematical calculations are made for two propositions:
            a) Determination of the horizontal projection of the contact area
            between the rolled material and the rolls on rolling in slitting
            passes with free spread, and b) determination of the horizontal
            projection of the contact area between the rolled material and the
            rolls upon rolling in slitting passes with constrained spread.

                                                                    A. I.

Card 1/1

VASHAKIDZE, A. S.: Master Tech Sci (diss) -- "The effect of elements in the

geometry of profile grooves on the power consumption in rolling". Tbilisi, 1958.

20 pp (Min Higher Educ USSR, Georgian Order of Labor Red Banner Polytech Inst im

S. M. Kirov), 150 copies (KL, No 8, 1959, 136)

VASHAKIDZE, A.S.

Effect of the shape of the section groove on power requirements
in rolling. Soob.AN Gruz.SSR 21 no.2:163-170 Ag '58.
(MIRA 12:6)
1. AN GruzSSR, Institut metallurgii, Tbilisi. Predstavleno
chlenom-korrespondentom Akademii F.N.Tavadze.
(Rolling (Metalwork))

NOZADZE, A.D.; VASHAKIDZE, A.S.

Studying a system of oval - square calibers. Soob.AN Gruz. SSR
25 no.2:171-178 Ag '60.   (MIRA 13:11)

1. AN GruzSSR, Institut metallurgii, Tbilisi. Predstavleno chlenom-
korrespondentom Akademii F.N.Tavadze.
        (Calibration)   (Rolling (Metalwork))

NOZADZE, A.D.; VASHAKIDZE, A.S.

Investigating a set of rhomic and square gauges. Soob. AN Gruz.
SSR 25 no. 3:319-326 S '60.   (MIRA 14:1)

1. Akademiya nauk Gruzinskoy SSR, Institut metallurgii, Tbilisi.
Predstavleno chlenom-korrespondentom Akademii nauk Gruzinskoy
SSR F.N. Tavadze.
                    (Rolling (Metalwork))

VASHAKIDZE, A.S.

Investigating pressure parameters in rolling in flanged grooves.
Trudy Inst. met. AN Gruz. SSR vol. 13:189-204 '62.

Rolling in flanged grooves. Ibid.:205-210 '62.   (MIRA 17:9)

NOZADZE, A.D.; VASHAKIDZE, A.S.

> Rolling a square (or rectangular) strip in oval groves. Trudy
> Inst. met. AN Gruz. SSR vol. 13:211-229 '62.   (MIRA 17:9)

VASHAKIDZE, A.S.

Stress calculation in hot rolling of thick strips. Soob. AN Gruz. SSR
35 no.2:371-378 Ag '64.   (MIRA 17:12)

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USSR/Nuclear Physics - Photoelectric Fission of Lithium   FD-627

Card 1/1   : Pub. 146-17/18

Author   : Vashakidze, I. Sh. and Chilashvili, G. A.

Title   : Photoelectric fission of the nucleus of Li^6

Periodical   : Zhur. eksp. i teor. fiz. 26, 254-255, February 1954

Abstract   : Letter to the editor about fission of the lithium nucleus and the
                 feasibility of regarding this nucleus in certain theoretical dis-
                 cussions as a system consisting of an alpha-particle and a deuteron.
                 The authors thank Prof. V. I. Mamasakhlisov for his assistance.

Institution   : Tbilisi State University

Submitted   : July 23, 53

VASHAKIDZE, I. SH.

"Dispersion of Fast Neutrons on Deuterons." Cand Phys-Math Sci, Tbilisi
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Distr: 4E3d

Inelastic scattering of fast neutrons by deuterons, taking spin-orbital interaction into account. I. Sh. Vashakidze (Stalin State Univ., Tflis). Soobshchensya Akad. Nauk Gruzin. S.S.R. 18, No. 4, 405-12(1957)(in Russian); cf. Frank and Gammel, C.A. 48, 6276a.—A math. discussion. Formulas are given for the differential and integral cross-sections for the scattering of fast neutrons in the presence of central forces, the spin-orbital interaction being (a) neglected and (b) taken into account. In the latter case the results are in good agreement with exptl. data.
                                                J. W. Loweberg, Jr.

VASHAKIDZE, I.Sh.

Angula distribution of protons from (nd) inelastic scattering.
Soob.AN Gruz.SSR 18 no.6:663-670 Je '57.   (MIRA 10:10)

1. Tbilisskiy gosudarstvennyy universitet im. Stalina. Predstav-
leno chlenom-korrespondentom Akademii V.I.Mamaskhlisovym.
                         (Protons--Scattering)

21(7)
AUTHORS: Vashakidze, I. Sh.,   Cheyshvili, O. D.

SOV/56-35-4-51/52

TITLE: On d+d Reactions (O d+d-reaktsiyakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
              Vol 35, Nr 4, pp 1o62-1o63 (USSR)

ABSTRACT: According to D. I. Blokhintsev (Ref 1) the production of
              "Superbarrier Fragments" in the spallation of nuclei by
              high-energy nucleons might be explained on the basis of the
              assumption that fluctuation-like dense accumulations of nucleons
              may occur during the motion of nucleons in the nucleus. By
              the direct collision of the inciding particle with these
              accumulations, "Super-Barrier"fragments are   produced. The
              results obtained were compared with the scattering of 675 MeV
              protons on light nuclei. Several nuclear reactions are suited
              for the checking of these theories, among them the d+d re-
              actions at equal energies. These reactions can develop through
              the following channels: d+d (1), d+n+p (2), 2n+2p (3),
              $He^3 + n$ (4), H^3+p (5), $He^4+\gamma$ (6). The cross sections of

Card 1/2   these reactions can be written down as follows: $\sigma_i = \sigma_t W_i$.

On d+d Reactions

Here σ_t denotes the total cross section of the d+d reaction, W_i - the probability of the development of the d+d reaction through the i-th channel, σ_i - the cross section of the i-th reaction. Next, expressions are written down for the aforementioned 6 W_i. Finally, $\sigma_1/\sigma_3 \sim 5.10^{-5}$ and $\sigma_2/\sigma_3 \sim 1.4 \cdot 10^{-2}$ is obtained. The ratio σ_4/σ_5 is probably nearly equal to 1. The reactions discussed here are, in the case of high energies, probably caused essentially by indirect interactions. There are 2 references, 1 of which is Soviet.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet
(Tbilisi State University)

SUBMITTED: April 25, 1958

Card 2/2

AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I.,   SOV/56-37-3-24/62
            Chilashvili, G. A.

TITLE: Resonance Scattering of γ-Quanta on the Mg^{24} Nucleus

ABSTRACT: The present paper deals theoretically with the resonance
            scattering of γ-quanta on the Mg^{24} nucleus with excitation of
            the level 2^+ (1.37 Mev) and 2^+ (4.23 Mev). F. Metzger (Ref 2),
            N. A. Burgov, and Yu. V. Terekhov (Ref 3) determined experi-
            mentally the width of the level 2^+ (1.37 Mev) by the method of
            resonance scattering. If the Mg^{24} nucleus is assumed to be
            weakly deformed, the level 2^+ (1.37 Mev) may be regarded either
            as a collective (rotational) level with the momentum I = 2
            (and with the projection K = 0 to the axis of symmetry of the
            nucleus) or also as a simple particle level (which is due to the
            excitation of a single nucleon in the field of the deformed
            nucleus). The nucleus in the shell N = 2 may be on the levels

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Resonance Scattering of γ-Quanta on the Mg^{24} Nucleus   SOV/56-37-3-24/62

$\Omega = \pm 1/2$, $\pm 3/2$, and $\pm 5/2$. In this connection three different levels correspond to the case $\Omega = \pm 1/2$, to the case $\Omega = \pm 3/2$ two, and to the case $\Omega = \pm 5/2$ one level (Ω denotes the projection of the momentum of the nucleon to the axis of symmetry of the nucleus). The distance between these levels depends on the value $\hbar\omega$ and on the parameter of deformation δ. According to the selection rules, only the transitions $1/2 \longrightarrow 1/2$ and

$3/2 \longrightarrow 3/2$ are possible in Mg^{24}. The value $\delta = \pm 0.2$ is found for the Nilsson parameter in the transition $1/2 \longrightarrow 1/2$, in the transition $3/2 \longrightarrow 3/2$, however, it holds that $\delta = 0$. The widths of the excited 1.37 Mev level are tabulated. The case with $\delta = -0.2$ is out of question. At $\delta = 0.2$, the theoretical value of the width is considerably higher than the experimental one. If the value of δ (i.e. C.3) is higher, the agreement with the experiment will probably be better. Angular distribution does not depend on the choice of the nuclear model as far as pure E2 transition is concerned. A different result with respect to the dependence of angular distribution on the nuclear model is, however, obtained if the resonance scattering of γ-quanta

Card 2/4   on the Mg^{24} nucleus with excitation of the second level

Resonance Scattering of γ-Quanta on the Mg^{24} Nucleus SOV/56-37-3-24/62

2^+ (4.23 Mev) is considered. From this level γ-transition to the ground level and to the first excited level is possible. In the transition to the ground level, the distribution of γ-quanta again does not depend on the choice of the nuclear model. In the transition to the first excited level, the transitions E2 and M1 are possible. The following relations hold for the probabilities: $W[E2(2 \rightarrow 1) \sim W[E2(2 \rightarrow 0)]$,

$W[M1(2 \rightarrow 1)] \sim W[E2(2 \rightarrow 1)]$. The figures 0.1, and 2 denote the ground level and the first and second excited level. Moreover, it holds that $W[E2(2 \rightarrow 1)] / W[E2(2 \rightarrow 0)] \sim 1$,

$W[M1(2 \rightarrow 1)] / W[E2(2 \rightarrow 1)] \sim 10^{-2}$. Transition $2 \rightarrow 1$ is no pure E2 transition. A formula is written down for the computation of the correlation function. After fairly extensive computations $I(\theta) \sim (1 + A \cos \theta + B \cos^2 \theta + C \cos^3 \theta + D \cos^4 \theta)$ is obtained, where $A = 0.11$; $B = -1.5$; $C = -0.3$; $D = 0.7$.

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Resonance Scattering of γ-Quanta on the Mg^{24} Nucleus   SOV/56-37-3-24/62

Θ denotes the angle between the absorbed and the emitted γ-quantum. Experimental investigation of the correlation of the γ-quanta in the excitation of the Mg^{24}-nucleus with the energy 4.23 Mev may lead to certain conclusions on the character of excitation of this nucleus. Unfortunately, such experiments have not yet been made. The authors thank V. I. Mamasakhlisov for his supervision and constant interest. There are 2 figures, 1 table, and 12 references, 7 of which are Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR
(Physics Institute of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: March 31, 1959

Card 4/4

24.6510

AUTHORS: Vashakidze, I. Sh., Kapaleyshvili, T. I., Mamasakhlisov, V. I.,
             Chilashvili, G. A.

TITLE: The Structure of the Be^9 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
             Vol. 38, No. 3, pp. 937-941

TEXT: Investigations conducted by other authors seem to indicate that the
Be^9 nucleus consists of two alpha particles and one neutron. Suh has proved
that the binding energy of the Λparticle in the hypernucleus $_\Lambda$Be^9 can
be made to agree with experiments only if one assumes that this particle
moves in the field of the two alpha particles. Similarly, one may assume
for the ordinary Be^9 nucleus that the neutron moves in the field of the
two alpha particles. In the article under review, the authors want to
find out whether such a system is stable, and how the energy spectrum of
the nucleus can be interpreted with the help of this model. The
Hamiltonian on which investigations are based reads: $H = -(\hbar^2/2\mu_\alpha)\Delta_u -$

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The Structure of the Be^9 Nucleus

$$- (\hbar/2\mu)\triangle_{\rho} + V_{n\alpha}(|\vec{\rho}-\vec{u}/2|) + V_{n\alpha}(|\vec{\rho}+\vec{u}/2|) + V_{\alpha\alpha}(u) + C_{\alpha\alpha}(u) \; ; \; \vec{u} \text{ denotes}$$

the radius vector of the alpha particles, ρ is the radius vector of the neutron with respect to the center of mass of the two alpha particles, $V_{n\alpha}$ and $V_{\alpha\alpha}$ are the possible energies of the $n\alpha$- and/or $\alpha\alpha$-interaction, $C_{\alpha\alpha}$ is the possible energy of the Coulomb interaction, $\mu_{\alpha} = 2M$, $\mu = 8M/9$, M is the nucleon mass. According to Suh $V_{nn} = -V_o e^{-\beta^2 r^2}$ $\left(\beta^2 = 0.266\cdot 10^{26} \text{ cm}^{-2}\right)$.

The energy levels of the Be^9 nucleus are computed by considering the vibrations along the axis of symmetry and around the center of mass of the two alpha particles. In a table, the excitation energies computed from formula (8) are compared with experimental data (Refs. 7, 3). Agreement is satisfactory. Levels with 9.3, 12.4, 14.1, and 15.5 Mev, which so far have not been found experimentally, are obtained theoretically. Their existence appears plausible. On the other hand, two very close levels 17.27 and 17.47 Mev, were found experimentally, to which only one theoretical (rotational) level with 17.2 Mev corresponds. Either there is really only one or there occurs a level splitting which is not covered by (8). From the results it may be concluded that all Be^9 levels consist of

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The Structure of the Be^9 Nucleus

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B006/B014

two groups: vibrations along the symmetry axis, with the excess neutron being in the ground state, and vibrations along the symmetry axis, with the excess neutron being in the first excited vibrational state. The groups are characterized by $n_2 = 0$ and $n_1 = 1$ (the quantum number n_1 corresponds to vibrations along the symmetry axis, n_2 to vibrations around the center of mass). It follows that n_2 is not greater than unity. Finally, the results obtained are compared with data on the $_\Lambda Be^9$ hyper-nucleus. The authors thank the collaborators of the Vychislitel'nyy tsentr Akademii nauk Armyanskoy SSR (Computing Center of the Academy of Sciences of the Armyanskaya SSR), as well as F. M. Ter-Mikayelyan and R. A. Aleksandryan for having computed the function tables on a "Yerevan" computer. There are 1 figure, 1 table, and 8 references, 1 of which is Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: October 1, 1959

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85683

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B006/B070

2 4,6/00

AUTHORS: Kopaleyshvili, T. I., Vashakidze, I. Sh., Mamasakhlisov,
           V. I., Chilashvili, G. A.

TITLE: The Alpha - Deuteron Model of the Li^6 Nucleus

PERICDICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki. 1960,
              Vol. 38, No. 6, pp. 1758-1764

TEXT: A detailed discussion is given of the possibility of considering the
Li^6 nucleus to be made of an alpha particle and a deuteron. The energy of
the relative motion of these subsystems of alpha and deuteron is
calculated on the basis of one of the assumptions, and it is shown that
this energy has a minimum in the region of negative values. Among others,
a paper by Biel (Ref. 7) is discussed in the introduction; Biel has
studied the binding energies of Be^8 and C^{12} nuclei on the alpha-particle
model and obtained a good agreement with the experiment by a proper choice
of a mixture of Serber-type and symmetric forces. In following Biel, the
present authors assume that both the forces between two nucleons and their

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The Alpha - Deuteron Model of the Li^6 Nucleus   S/056/60/038/006/025/049/XX
                                                     B006/B070

wave functions have a Gaussian form. It is further assumed that the six-nucleon system of the Li^6 nucleus consists of two coupled subsystems, an alpha particle and a deuteron, which continually exchange nucleons, and that this system has an energy minimum. Parameters are defined which characterize the Li^6 nucleus in the ground and the excited states. The eight possible states of a nucleon are defined by its spin, isospin, and belonging to one of the two subsystems, and have the form (a, b, c) where a, b, c, = 1, 2. These states are numbered from 1 to 8, and these numbers are used to characterize, for example, the wave functions. Thus, for example, the spatial part of the wave function of the Li^6 nucleus is represented by $\psi(1234;56)$, where the first four indices refer to the nucleons of the alpha subsystem and the last two to the d-subsystem. Since an analytical determination of the energy is not possible on account of the complicated expressions, a numerical calculation is suggested. Energy curves for the ground state of Li^6 are found and shown in Fig. 1 (Serber-type forces, Curve 1; symmetric forces, Curve 2). The ordinate of the curves is taken to be the difference $E(\lambda)-E(0)$, where $E(0)$ is the energy of the system when the alpha particle and the deuteron are separated by an

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The Alpha - Deuteron Model of the Li^6 Nucleus   S/056/60/038/006/025/049/XX
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infinite distance. The fact that these curves have a minimum shows that the nucleon system considered is stable. The minimum in both the cases is found for $\lambda = 0.0316 \cdot 10^{26}$cm^{-2}; the energy minima are at -1.58 Mev (Serber-type) and -1.42 Mev (symmetric forces). Finally, the excited state 0$^+$ (T=1) of the Li^6 nucleus is studied. Fig. 3 shows the curve $E^*(\lambda) - E^*(0)$ as a function of λ for a mixture of Serber-type and symmetric forces. This curve has also a minimum (0.66 Mev) for the same value of λ as in the ground state; it has also a maximum at $0.0158 \cdot 10^{26}$cm^{-2}. The value of excitation energy is found to be 4.77 Mev. which does not agree well with the experimental value of 3.57 Mev. The origin of this divergence is discussed. D. A. Kveselav and Ye. N. Dekanosidze of the Vychislitel'nyy tsentr AN Gruzinskoy SSR (Computation Center of the AS Gruzinskaya SSR), and R. A. Aleksandryan and F. M. Ter-Mikaelyan of the Vychislitel'nyy tsentr AN Armyanskoy SSR (Computation Center of the AS Armyanskaya SSR) are thanked for the calculations. There are 3 figures and 11 references: 3 Soviet, 3 British, 2 US, 1 French, 1 Italian, and 1 Dutch.

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The Alpha - Deuteron Model of the Li^6 Nucleus   S/056/60/038/006/025/049/XX
                                                     B006/B070

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of
               Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: December 19, 1959

Card 4/4

24.6600
AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I.,
              Chilashvili, G. A.

TITLE: Investigation of the (n,p) Reaction on the Li^6 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
              Vol. 39, No. 2(8), pp. 393-396

TEXT: It was the purpose of the present paper theoretically to determine
the proton angular distribution in the (n,p) reaction on Li^6 in considera-
tion of the neutron-proton correlation in the Li^6 nucleus. The authors in-
vestigated the (n,p) reaction on the Li^6 nucleus on the basis of the alpha-
deuteron model of this nucleus, which had been worked out in earlier pa-
pers (Refs. 4, 5). They assume that the use of this model may lead to a
better agreement between theory and experiment. It is assumed in this con-
nection that the neutron and the proton, which are above the closed shell,
form a bound state, so that the characteristic of the departure of the
proton caused by the incidence of a neutron is due not only to direct in-
teraction between these two particles (as assumed in the generally accepted

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Investigation of the (n,p) Reaction on the   S/056/60/039/002/026/044
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theory), but also to an interaction between the inciding neutron and the neutron bound to the proton. A consideration of neutron-proton coupling in the nucleus must lead to an increase of the cross section at large angles when calculating the reaction cross sections, which corresponds to the experimental results obtained. A formula for calculating the angular distributions, formula (11) with (12) and (13) as definition formulas, is obtained and discussed. The numerical results of (11) are graphically re- presented for a 14-Mev energy of the incident neutron and oscillator-po- tential parameters of $r_0 \approx 1 \cdot 10^{-13}$cm (curve I) and $r_0 \approx 1.2 \cdot 10^{-13}$cm (curve II). The diagram also contains the experimental values. Both curves satisfactorily represent the experimental results (which have considerable error limits). Curve II does so somewhat more satisfactorily. In any case it is shown that a consideration of a proton-neutron coupling in the nu- cleus actually leads to an increase of the total (n,p) cross section at large scattering angles. The authors finally thank V. I. Mamasakhlisov for his interest and discussions. There are 1 figure and 6 references: 2 Soviet and 4 US.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of
              Physics of the Academy of Sciences Gruzinskaya SSR)
SUBMITTED: March 1, 1960
Card 2/2

KOPALEYSHVILI, T.I.; VAGRADZE, I.Ch.; MUTASAKHLISOV, V.I.; CHILASHVILI, G.A.

Alpha-deuteron model of the Li^6 nucleus. Trudy Inst. fiz. AN Gruz. 7:231-245 '61. (MIRA 14:10)

(lithium)

AUTHORS: Vashakidze, I. Sh., Kopaleyshvili, T. I., Mamasakhlisov, V. I., Chilashvili, G. A.

TITLE: Resonance Scattering of Gamma Quanta on the Li7 Nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3 (9), pp. 666-668

TEXT: The authors studied the resonance scattering of gamma quanta on the Li^7 nucleus with the excitation of levels $1/2^-$ (0.477 Mev) and $5/2^-$ (7.46 Mev) (Fig. 1). The calculation of the $5/2^-$ level by means of a model of the oscillator potential, and with the spin-orbit interaction taken into account, is first discussed along with the conception of this level as the rotation of a rigid rotator consisting of an α-particle and a triton ($Li^7 = \alpha + t$), and the equation obtained in a previous paper (Ref. 2) concerning the quadrupole moment of Li^7 is then written down:

$$Q_0 = (68/49)\overline{r^2} \quad (1),$$

where $\overline{r^2}$ denotes the mean square distance between

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Resonance Scattering of Gamma Quanta on the   S/056/60/039/003/018/045
Li7 Nucleus   B004/B060

alpha particles and triton. The following relation is written down for
an ellipsoid of revolution equivalent to this rotator:

$3ZR^2\beta/\sqrt{5\pi} = (68/49)\bar{r}^2$ (2). $Z = 3$, R = radius of the equilibrium
sphere, β = deformation parameter of the Li7 nucleus. Data supplied in a
paper by A. S. Davydov and G. F. Filippov (Ref. 3) are made use of to
write down equation (3) for the magnetic moment, and from (1) and (3)
the following correlation function is obtained by substituting the data
found by V. Yu. Gonchar, Ye. V. Inopin, S. P. Tsvtko (Ref. 4):

$I(\theta) \sim \left[1 + 1.22P_2(\cos\theta) + 2.77P_4(\cos\theta)\right]$ (4). θ is the angle between the
absorbed and emitted γ-quanta. Fig. 2 shows this function on the
assumption of a single-particle- and a collective excitation. The value
$1.5 \cdot 10^{-13}$ sec was calculated for the lifetime of the state $1/2^-$ (0.477
Mev) of the Li7 nucleus, when single-nucleon excitation was assumed, and
the value $0.96 \cdot 10^{-13}$ was found when the alpha particle - triton pattern
was assumed. The value found experimentally is $1.09 \cdot 10^{-13}$ sec. The
assumption of the level $1/2^-$ (0.477 Mev) being caused by spin reversal

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Resonance Scattering of Gamma Quanta on the   S/056/60/039/003/018/045
Li^7 Nucleus   B004/B060

of triton, not of the nucleus, is therefore in better agreement with
experimental results. There are 2 figures and 5 references: 4 Soviet and
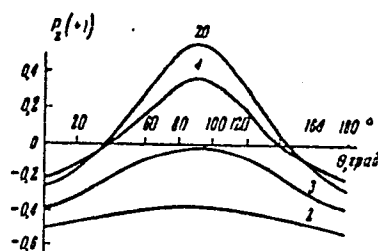1 US.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State
               University). Institut fiziki Akademii nauk Gruzinskoy SSR
               (Institute of Physics of the Academy of Sciences,
               Gruzinskaya SSR)

SUBMITTED: March 31, 1960

Card 3/3

20458
S/056/61/040/002/018/047
B102/B202

24.6600

AUTHORS: Vashakidze, I.Sh., Kopaleyshvili, T.I., Chilashvili, G.A.

TITLE: Neutron polarization on disintegration of Be^9 nuclei by circularly polarized gamma quanta

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 491 - 492

TEXT: As is known, circular polarization of gamma quanta can be determined from the polarization of photoprotons or photoneutrons which are emitted by nonpolarized nuclei. This is of interest in connection with the discovery of the non-conservation of parity in weak interactions. The best targets for low quantum energies proved to be H^2 or Be^9. No photoneutron polarization has hitherto been observed in Be^9; for this reason, the authors theoretically studied the polarization of photoneutrons which are released by circularly polarized quanta. They obtained the following expression for the z-component (in the direction of the inciding quantum) of the polarization vector of photoneutrons from Be^9:

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Neutron polarization on disintegration...

$$P_z(\pm 1) = \pm \frac{0.5\left\{1.28A_2^2 - A_0^2 - [2A_0 A_2 \cos(\eta_0 - \eta_2) + 1.53A_2^2] P_2(\cos\theta)\right\}}{A_0^2 + 2A_0 A_2 \cos(\eta_0 - \eta_2) P_2(\cos\theta) + 2.14 A_2^2 - 0.76A_2^2 P_2(\cos\theta)},$$

(1)

$$A_0 = \int R_{0\,1/2} R_{1\,1/2}\, r^3 dr, \quad A_2 = \int R_{2\,1/2} R_{1\,1/2}\, r^3 dr,$$

where $\eta_0 = \eta_{0\,1/2}$, $\eta_2 = \eta_{2\,3/2} = \eta_{2\,5/2}$ are the scattering phases, and is the scattering angle of the photoneutrons; the upper and the lower sign correspond to right- and left-handed quantum polarization, respectively. Since the direction of the axis can be arbitrarily chosen P_x and P_y coincide after averaging over φ. Formula (1) contains the scattering phases η_0 and η_2, and the radial integrals A_0 and A_2. These quantities can be easily determined with the aid of the potential parameters of the neutron in the Be^9 nucleus, i.e., $V_{1\,3/2} = 12.16$ Mev, $V_{0\,1/2} = 3$ Mev and $r_0 = 5 \cdot 10^{-13}$ cm if the quantum energy is known. Thus, the angular dependence of the z-component of the polarization vector of the photoneutron can be determined. It is shown in the figure for quantum energies of 2, 3, 4, and 20 Mev. These energies

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S/056/61/040/002/018/047
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Neutron polarization on disintegration...

were chosen because the elastic scattering cross section of photoneutrons in this range is sufficiently large (of the order of some barns); besides, also the photonuclear process has a maximum cross section at 2-4 Mev so that these energies are especially adequate for obtaining a high degree of efficiency. With E_γ=20 Mev the sign of circular polarization can be determined only by the photonuclear reaction. As may be seen from the diagram, neutron polarization attains almost 50% at certain angles; according to the direction of circular polarization of the quanta, photoneutron polarization has different signs. The curves in the diagram hold for right-handed polarization of the quantum. The authors thank V.I. Mamasakhlisov and S.G. Matinyan for discussions. There are 1 figure and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: E. Guth, C. Mulin, Phys. Rev. 76 234, 1949.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University) Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: May 23, 1960

Card 3/4

Neutron polarization on disintegration ...

20458
S/056/61/040/002/018/047
B102/B202

Card 4/4

TITLE: Binding energy of hypertritium in the case of a nonlocal inter-
action

SOURCE: AN SrssSSR, Doklalahaminga, v. , no. , 19 , -

ABSTRACT: The total binding energy for H^3 was determined by solving
a system of related

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L 10317-65
ACCESSION NR: AP5000047

interactions occur in a state ¹S. Therefore, the potentials V⁰⁰ and
/¹¹ were used only in the singlet state. The binding energy was cal-
culated from Schroedinger's equations for wavefunction, taking into
account the transitions ⟨S⟩ to the product of weak interaction. Because
of the peculiarity of the ⟨sd⟩ system, Hulthén's approximation was used
in solving the equations. In this approximation, the solutions of
integral equations show by...

... going to the limit when the ⟨S⟩ transitions are not possible, the
value for binding energy is equal = 4. Mv. This result shows that
the Δ=1 transitions are important and should be taken into considera-
tion. Orig. art. has 27 formulas.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State
University)

SUBMITTED: 12Mar64   ENCL: 00   SUB CODE: NP

NO REF SOV: 003   OTHER: 07   ATD PRESS: 3155

Card 2/2

ACCESSION NR: AP4042786   S/0020/64/157/003/0557/0560

AUTHORS: Vashakidze, I. Sh.; Chilashvili, G. A.

TITLE: Binding energy of hypertritium in the case of nonlocal inter-
action

TOPIC TAGS: hyperon, tritium, binding energy, lambda particle,
sigma particle

ABSTRACT: A study is made of hypertritium under the assumption of
a nonlocal factorizing interaction between any pair of particles,
using the Gell-Mann global symmetry hypothesis (Phys. Rev. v. 106,
1296, 1957). The total energy of the $_\Lambda H^3$ hypernucleus is found by
solving a system of coupled integral equations with allowance for
the $\Lambda N \rightleftarrows \Sigma N$ transitions. These transitions were not taken into ac-
count in other similar calculations. The coupled Schroedinger equa-

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ACCESSION NR: AP4042786

tions are first written down for hypertritium with allowance for
$\Lambda \rightleftarrows \Sigma$ transitions in the case of local interaction, after which the
transition is made to the equations for a nonlocal factorizing inter-
action. This system can be reduced by integration with respect to
the angles to a system of three one-dimensional integral equations,
which can be easily solved with the aid of computers. Account is
taken of the fact that the binding energy of the hypertritium dif-
fers little from the binding energy of the deuteron, and an approxi-
mation considered by Mitra (Nucl. Phys. v. 32, 429, 1962) can there-
fore be used. In this approximation the eigenvalues of the energy
are determined from the vanishing of an eight-order determinant. The
smallest root of this determinant corresponds to a total hypertritium
binding energy of 2.904 MeV, which is in satisfactory agreement with
the experimental value 2.3 MeV. If the $\Lambda \rightleftarrows \Sigma$ transitions are not
included, the binding energy obtained is 4.6 MeV, showing that the
transitions cannot be neglected. It is thus shown that by using the
model of global symmetry and taking the interaction between the par-

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ACCESSION NR: AP4042786

ticles in the form of a nonlocal factorizing potential in the Yamaguchi form, the observed total binding energy of hypertritium can be explained by taking the $\Lambda \rightleftarrows \Sigma$ transitions into account. "We thank V. G. Solov'yev for continuous interest and discussions, V. I. Ogiyevetskiy for advising us on problems in the field of strong interactions, and A. V. Rakit*skiy for programming the problem." Orig. art. has: 14 formulas. Report presented by N. N. Bogolyubov.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 12Feb64   ENCL: 00

SUB CODE: NP   NR REF SOV: 003   OTHER: 006

Card 3/3

L 14822-65   EWT(1)   IJP(c)/EPD(a)-5/ESD(t)   S/0020/64/158/006/1302/1305
ACCESSION NR: AP4048034

AUTHORS: Vashakidze, I. Sh.; Muradyan, R. M.; Tavkhelidze, A. N.;
Chilashvili, G. A.; Shelest, V. P.

TITLE: Investigation of the analytic properties of the scattering
amplitude in the nonrelativistic three-body problem

SOURCE: AN SSSR. Doklady*, v. 158, no. 6, 1964, 1302-1305

TOPIC TAGS: analytic function, meromorphic function, Regge pole,
scattering amplitude, angular momentum

ABSTRACT: The authors indicate that earlier attempts to determine
the singularities, especially moving branch points, of the scatter-
ing amplitude in the complex angular momentum plane are still incon-
clusive, and investigate the analyticity of the scattering amplitude
for the three-body problem in which a free particle is scattered by
the bound state of the two other particles. It is shown that formal

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continuation of the kernels of the appropriate integral equations
leads to incorrect results, the reasons which are spelled out. It
is shown, however, that if the matrix element that determines the
probability of scattering by the bound state is expanded in a per-
turbation theory series, each term of the expansion, taken in the
impulse approximation, can be set in correspondence with a Feynman
diagram, from which it can be deduced that the scattering amplitude
is meromorphic in the complex angular momentum plane. The result is
of interest in the sense that each term of the perturbation theory
series may have a cut, whereas the series as a whole is a meromorphic
function. A detailed exposition of the result is contained in Pre-
print R-1662 of the Joint Institute of Nuclear Research. "In con-
clusion, we thank N. N. Bogolyubov and A. A. Logunov for discussions,
and also B. A. Arbuzov, A. V. Yefremov, I. T. Todorov, and O. A.
Khrustalev for fruitful discussions." This report was presented by
N. N. Bogolyubov. Orig. art. has: 21 formulas.

Card   2/3

L 14822-65
ACCESSION NR: AP4048034

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: 18Apr64   ENCL: 00

SUB CODE: MA, NP   NR REF SOV: 003   OTHER: 004

Card   3/3

VASHAKIDZE, K.G.

Use of a powder from the leaves of Digitalis ciliata in
treating chronic cardiac insufficiency. Trudy Inst. klin. i
eksper. kard. AN Gruz. SSR 9:357-362 '63.   (MIRA 17:7)

1. Kafedra fakul'tetskoy terapii meditsinskogo instituta i
terapevticheskogo otdeleniya II-oy gorodskoy klinicheskoy
bol'nitsy, Tbilisi.

USSR/Cultivated Plants. Cereals.   M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77632.

Author : Vashakidze, O.N.
Inst   : Georgia Scientific-Research Institute of Hydrotechnics
          and Amelioration.
Title   : Some Features of Water Supply of Corn Crops in the
          Conditions of Samgora.

Orig Pub: Tr. Gruz. n.-i. in-ta gidrotekhn. i melior., 1957,
          vyp. 18-19, 73-87.

Abstract: No abstract.

Card   : 1/1

VASHAKIDZE, O. N.: Master Agric Sci (diss) -- "Some aspects of the movement of

water in the soils of Samgora and the water supply of corn". Tbilis, 1955. 22

pp (Min Agric USSR, Georgian Order of Labor Red Banner Agric Inst), 100 copies

(KL, No 12, 1959, 130)

VASHAKIDZE, O.N.

Changes in the erosion indices of Chernozemlike soils of Samgora
due to irrigation. Trudy GruzNIIGiM no.20:33-37 '58.

(MIRA 15:5)

(Samgora—Irrigation) (Erosion)

KHAMZAYEV, M.M.; VASHAKIDZE, O.N.

Development of the root system of some crops in drained gley soils.
Trudy Gruz NIIGiM no.21:209-218 '60.   (MIRA 16:1)
(Crops and soils)

CHACHAVA, K.V., dots.; VASHAKIDZE, P.D.

Using a vacuum extractor instead of obstetrical forceps [with
summary in English]. Akush. i gin. 33 no.6:11-15 N-D '57.
(MIRA 11:3)
1. Iz kafedry akusherstva i ginekologii (zav.-prof. L.V.Eliashvili)
Tbilisskogo instituta usovershenstvovaniya vrachey.
(DELIVERY
vacuum extractor as substitute for obstetric forceps)
(OBSTETRICS, appar. & instruments,
vacuum extractor (Rus)

VASHAKIDZE, P. D., Cand Med Sci -- "Towards the problem of the treating asthenia of generic activity by the vacuum stimu-lating agent." Tbilisi, 1961. (Tbilisi State Med Inst)

(KL, 8-61, 259)

The ... ... determination of the experimental ... of
... ...
... ... resolving ...
... the ... ... The
... distribution ... ... the
... of the system. Half-width ... ... moment of ...
... a magnetic ... ... part of the material. The ... dipole
moment ... ... estimate of the
... ... particle ... ... distributions. The
theoretical value of the cross-section of the reaction is
... ... cm² and the experimental value ... ... cm².
... J S R .

MANDZHGALADZE, R.N.; VASHAKIDZE, V.I.; PAPKAROVA, S.S.; KURILII, L. .

Some clinical and experimental data on the toxic prop. ties of
potassium permanganate. Soob. AN Gruz. SSR 36 no.3:675-602   '64.
(MIRA 18:3)

1. Institut gigiyeny truda i professional'nykh zabolevaniy im.
N.G. Makhviladze Ministerstva zdravookhraneniya Gruz.SSR. Submitted
May 29, 1964.

L 3820-66

AUTHOR: Vashakhidze, V. I.

TITLE: Certain questions on the harmful effect of 1-naphthyl-N-methylcarbanate on
the sexual function of experimental animals

TOPIC TAGS: pesticide, toxicology, biological reproduction, poison effect

ABSTRACT: The effects of the nitrogen-containing pesticide 1-naphthyl-N-methyl-
-carbanate on the sexual functions of white rats were investigated. Dosages of
0.05, 0.1 and 0.3 g/kg were administered orally. Chronic poisoning in female rats
produced disruption of the sexual cycle, prolonged pregnancies, decreased number of
liters per rat and number of individuals per liter, or often complete sterility.
Frequent deformity in the liters produced by poisoned females and a large percent-
age of deaths both before and after birth were observed. The embryos were found to
be most sensitive to the adverse effects of 1-naphthyl-N-methylcarbanate during the
period of organ development, i. e., the 9th to the 10th day of embryonic develop-
ment. The primary effect of the poison on males was the development of abnormal
spermatogenesis. The spermatozoa were less motile than in controls, had reduced

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L 3820-66
ACCESSION NR: AP5024575

respiratory functions and many were deformed and dead. The great majority of males
with defective spermatozoa were found to be sterile. There was no development of
general systemic toxocity except for some minor changes in the composition of the
peripheral blood and in the function of the central nervous system. It is con-
sidered of utmost importance to establish whether the observed results of the poi-
son are due to a genetic mutation and experiments toward this end are planned or
in progress.

ASSOCIATION: Institut gigieni truda i profzabolevaniy im. N. I. Makhviladze
MZ GSSR (Institute of Industrial Hygiene and Occupational Diseases)

SUBMITTED: 25Feb65   ENCL: 00   SUB CODE: LS

NO REF SOV: 005   OTHER: 003

Card 2/2

VASHAKIDZE, V.I.

Some problems of the harmful effect of sevin on the sexual function in laboratory animals. Soob. AN Gruz. SSR 39 no.2:471-474 Ag '65. (MIRA 18:9)

1. Institut gigiyeny truda i professional'nykh zabolevaniy imeni Makhviladze Ministerstva zdravookhraneniya GruzSSR. Submitted February 2, 1965.